

Work Order ID 151390

Friday, September 23, 2016 2:49:19 PM

151390

Page 1

Item ID: D2573 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Saddle, Aft, Out
Start Date: 9/21/2016 Start Qty: 8.00 ***8*** Cust Item ID:
Required Date: 10/1/2016 Req'd Qty: 8.00 ***8*** Customer:
Reference:

Approvals: Process Plan: **DAS 21 9-89** Date: **SEP 26 2016** Tooling: Date: Run Start ***NR1***
QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D2573	F

100

0.02

100

HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.48

HAAS CNC vertical machine #1

Program Batch No. **151390**Double check by: **FK**

1-Machine Step No 1 per Folio FA051 and inspect per attached Dimension Sheets

2-Machine Step No 2 per Folio FA051 and inspect per attached Dimension Sheets

3-Machine Step No 3 per Folio FA051 and insp

DAS 14 9-09
DAS 44 9-89
16-10-23

110

0.00

110

CONVENTIONAL MILLING MACHINE

Mill Conv

Memo

0.12

Conventional Milling Machine

Machine keyway as per dwg D2573 & D2574

DAS 44 9-89
16-10-23

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval 	
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval					

Root Cause				FAULT CATEGORY			
Environment ☐	☐ No Re-verification	Pressure/Forced ☐	☐ Temperature/Cure	Power Loss/Surge ☐	☐ Positioned Wrong		
Design ☐	☐ Operator	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	☐ Offset/Setup	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	☐ Supplier	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐		
Handling/Pre ☐	☐ Training	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐		
Material ☐	☐ Use for Testing	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐		
Internal Transport ☐	☐ Poor Information	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐		
Tribal Knowledge ☐	☐ Rushing	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐		
LOA ☐	☐ Product Improvement	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐		
Substation ☐	☐ Process Improvement	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐		
Past Expiry Date ☐	☐ Manufacturing Process	OTHER : _____					
Misidentified ☐	☐ Past Due						

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Page 2

Hand Finishing

DAS

14

9-39

16115

2

6-10

3

DAS

08

9-59

46

7

БЕБ.

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

Work Order ID 151390

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151390

Page 4

Item ID: D2573

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Saddle, Aft, Out

Start Date: 9/21/2016 Start Qty: 8.00

8

Cust Item ID:

Required Date: 10/1/2016 Req'd Qty: 8.00

8

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

NR1

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

180

QC21- Final Inspection - Work Order Release

0.00

180

QC

Memo

0.13

DAS

21

9-29

NOV 04 2016

Quality Control

DAS

21

9-29

NOV 04 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

• QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

Picklist Print

Friday, September 23, 2016 2:49:19 PM

Work Order ID: 151390

151390

Parent Item: D2573

D2573

Parent Item Name: Saddle, Aft, Out

Start Date: 9/21/2016

Required Date: 10/1/2016

Start Qty: 8.00

Required Qty: 8.00

Comments: IPP: I As Per RevE 06-01-27 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6101-007		Manufactured	No			100	Each	53.0000	1	8			

D6101-007

Saddle Billet

Location

Loc Qty

Loc Code

MAT041

53

143818

1

147681

2

148712

10

149258

20

→ 149948

20

2

6

only
10/10/20

QA Closed: Date:



Work Order update only ☐

Work Order: _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS					
Part No. _____		Rework ☐		Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐		
NCR No. _____		Scrap ☐		Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐		
		Use-as-is ☐		Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐		
		Suspected Unapproved ☐		Large Fab ☐	Composite ☐	Supplier ☐			
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition			Completed By		
							Lead hand / Supervisor Approval Verification		
							QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY							
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong				
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions				
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance				
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect				
Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing				
Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved				
Internal Transport ☐	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing				
Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Finish				
LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread				
Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence				
Past Expiry Date ☐	☐ Manufacturing Process								

DART AEROSPACE LTD	Work Order: 151390
Description: Saddle, Aft Outboard	Part Number: D2573
Inspection Dwg: D2573 Rev. F	Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2573 Rev. E and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	By	Date
A	0.438	0.443		.438	.438	.438	.438		
B	1.745	1.755		1.750	1.750	1.750	1.750		
C	3.495	3.505		3.500	3.500	3.500	3.500		
D	1.745	1.755		1.750	1.750	1.750	1.750		
E	7.990	8.010		8.002	8.002	8.001	8.001		
F	0.490	0.510		.500	.500	.500	.501		
G	0.257	0.262		.258	.258	.258	.258		
H	0.375	0.380		.376	.376	.376	.376		
I	0.490	0.510		.500	.500	.503	.505		
J	1.174	1.184		1.179	1.179	1.179	1.179		
K	0.558	0.578		.570	.570	.570	.572		
L	1.174	1.184		1.179	1.179	1.179	1.179		
M	1.365	1.375		1.370	1.370	1.370	1.370		
N	2.495	2.505		2.500	2.500	2.500	2.500		
O	4.119	4.129		4.124	4.124	4.124	4.124		
P	0.115	0.135		.135	.135	.135	.135		
Q	0.115	0.135		.125	.125	.125	.124		
R	0.240	0.260		.251	.251	.253	.253		
S	0.115	0.135		.124	.123	.125	.126		
T	0.178	0.198		.188	.188	.188	.188		
U	3.210	3.250		3.230	3.230	3.230	3.230		
V	0.230	0.250		.240	.240	.241	.242		
W	0.115	0.135		.122	.123	.122	.122		
X	0.308	0.313		.311	.311	.311	.311		
Y	0.760	0.765		.761	.761	.761	.761		
Z	0.352	0.372		.363	.363	.364	.365		
AA	0.470	0.530		.500	.506	.500	.500		
AB	0.615	0.635		.625	.625	.625	.625		
AC	0.053	0.073		.063	.063	.063	.063		
AD	0.240	0.260		.250	.250	.251	.253		
AE	1.500	1.520		1.510	1.510	1.510	1.510		
AF	0.115	0.135		.125	.125	.125	.125		
AG	0.240	0.280		.260	.260	.260	.260		
AH	0.240	0.260		.248	.248	.246	.246		
AI	2.000	2.020		2.000	2.000	2.000	2.000		
AJ	0.023	0.043		.033	.033	.033	.033		

Accept/Reject

Measured by:	14	44
Date:	16/10/21	16/10/23

Audited by:	D.A.
Date:	16/10/23

Rev	Date	Change	Revised by	Approved
B	02.09.26	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	
F	13.03.07	Dwg Rev updated	KJ	

DART AEROSPACE LTD	Work Order:	157390
Description: Saddle, Aft Outboard	Part Number:	D2573
Inspection Dwg: D2573 Rev. F		Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2573 Rev. E and record below:

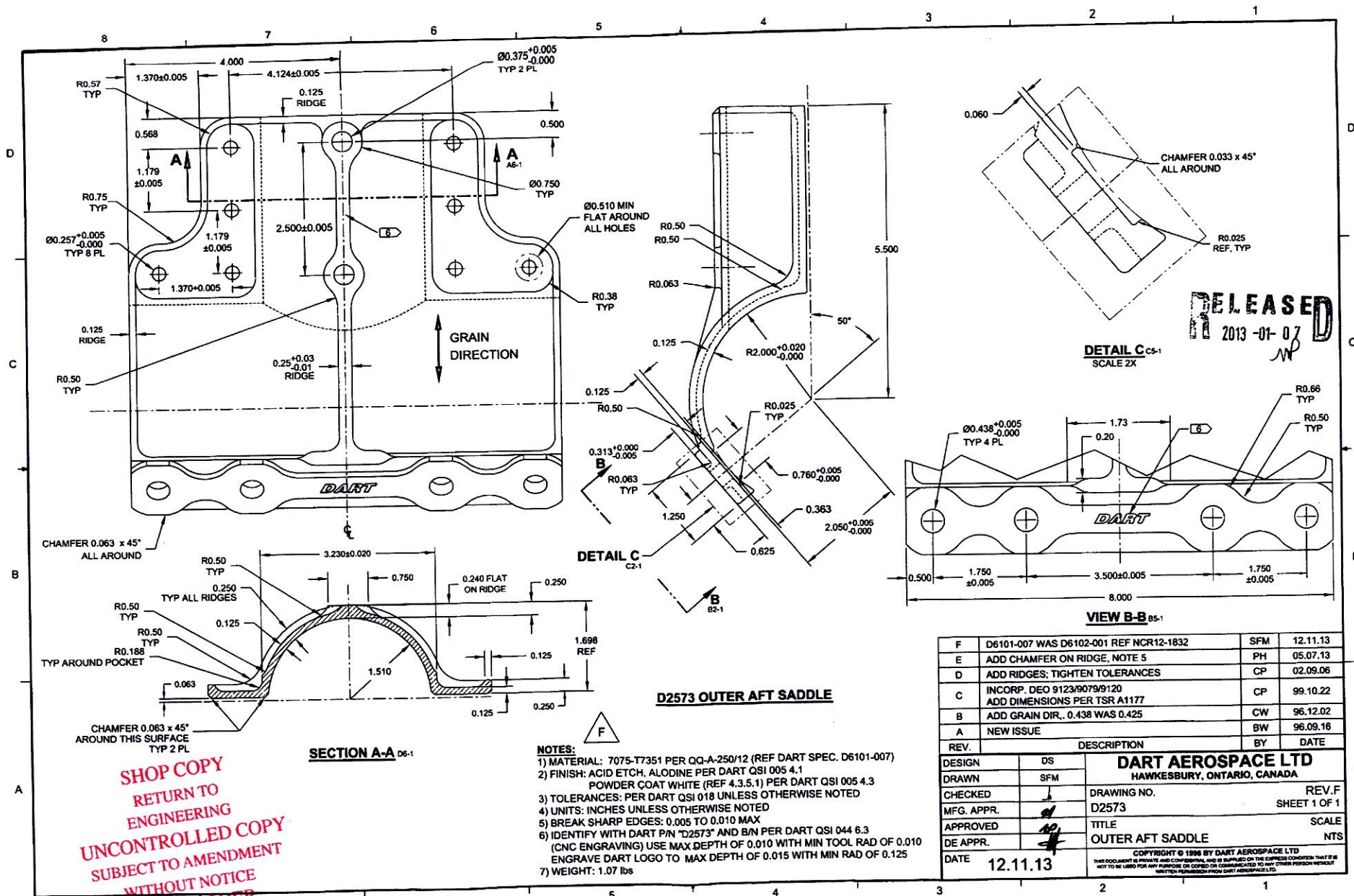
				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	5	6	7	8	By	Date
A	0.438	0.443		.438	.438	.438	.438		
B	1.745	1.755		1.750	1.750	1.750	1.750		
C	3.495	3.505		3.500	3.500	3.500	3.500		
D	1.745	1.755		1.750	1.750	1.750	1.750		
E	7.990	8.010		8.001	8.002	8.002	8.001		
F	0.490	0.510		.501	.500	.500	.499		
G	0.257	0.262		.258	.258	.258	.258		
H	0.375	0.380		.376	.376	.376	.376		
I	0.490	0.510		.505	.505	.505	.505		
J	1.174	1.184		1.179	1.179	1.179	1.179		
K	0.558	0.578		.571	.571	.571	.572		
L	1.174	1.184		1.179	1.179	1.179	1.179		
M	1.365	1.375		1.370	1.370	1.370	1.370		
N	2.495	2.505		2.500	2.500	2.500	2.500		
O	4.119	4.129		4.124	4.124	4.124	4.124		
P	0.115	0.135		.135	.135	.135	.135		
Q	0.115	0.135		.123	.124	.124	.124		
R	0.240	0.260		.253	.253	.251	.253		
S	0.115	0.135		.126	.125	.125	.124		
T	0.178	0.198		.188	.188	.188	.188		
U	3.210	3.250		3.230	3.230	3.230	3.230		
V	0.230	0.250		.242	.242	.241	.241		
W	0.115	0.135		.122	.121	.122	.122		
X	0.308	0.313		.311	.311	.311	.311		
Y	0.760	0.765		.761	.761	.761	.761		
Z	0.352	0.372		.365	.365	.365	.364		
AA	0.470	0.530		.500	.500	.500	.500		
AB	0.615	0.635		.625	.625	.625	.625		
AC	0.053	0.073		.063	.063	.063	.063		
AD	0.240	0.260		.253	.253	.252	.252		
AE	1.500	1.520		1.510	1.510	1.510	1.510		
AF	0.115	0.135		.125	.125	.125	.125		
AG	0.240	0.280		.260	.260	.260	.260		
AH	0.240	0.260		.247	.247	.247	.246		
AI	2.000	2.020		2.000	2.000	2.000	2.000		
AJ	0.023	0.043		.033	.033	.033	.033		

Accept/Reject

Measured by:	44
Date:	16-10-23

Audited by:	44
Date:	16/10/23

Rev	Date	Change	Revised by	Approved
B	02.09.26	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	
F	13.03.07	Dwg Rev updated	KJ	



SHOP COPY
RETURN TO
ENGINEERING
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SUBJECT TO AMENDMENT
WITHOUT NOTICE

WORK ORDER
NO. 151390 M19
17-09-26